

App. No. 10//08,758
Amendment dated February 27, 2006
Reply to Office action of October 27, 2005

Amendments to the Specification (other than claims):

Please replace paragraph [0027] with the following amended paragraph:

[0027] Fig. 4 is a partly enlarged cross sectional view schematically showing a skeleton structure of a conventional hydrodynamic bearing portion near a thrust plate; [[and]]

Please replace paragraph [0028] with the following amended paragraph:

[0028] Fig. 5 is a view showing a inclination angle of an inner peripheral surface of a sleeve in accordance with the present invention, by using a cross sectional view schematically showing a skeleton structure of a spindle motor in accordance with an example of the present invention[[.]]; and

Please add the following new paragraph after paragraph [0028]:

[0028.1] Fig. 6 is a partly enlarged cross sectional view showing another embodiment of the present invention.

Please replace paragraph [0045] with the following amended paragraph:

[0045] Further, the first capillary seal portion [[28b]] 28a forming the upper capillary seal portion 28 has a larger inclination angle toward the inner side from the outer side in the radial direction with respect to the rotation axis, and the second capillary seal portion 28b continuously provided in the first capillary seal portion 28a has only a small inclination angle with respect to the rotation axis. Accordingly, when the rotor 6 is rotated at a high speed, the lubricating oil 8 retained within the first capillary seal portion 28a is pressed to the side of the upper thrust bearing portion 24 on the basis of a centrifugal force, and the gas-liquid interface of the lubricating oil 8 formed within

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the second capillary seal portion 28b is sucked into the first capillary seal portion 28a accordingly, so that a seal strength is reinforced.

Please replace paragraph [0056] with the following amended paragraph:

[0056] The air sucked into the communication hole 36 from the second opening portion 36b forms an annular gas interstitial portion 42 between a recess portion [[4c]] 4a to which the first opening 36a is open, and the inner peripheral surface of the sleeve 6b opposing to the recess portion [[4c]] 4a. Owing to the gas interstitial portion 42, the lubricating oil 8 retained in the micro gap between the outer peripheral surface of the shaft 4 and the inner peripheral surface of the sleeve 6b forms the gas-liquid interface and is separated into upper and lower sides in the axial direction within the capillary seal portion formed between a pair of inclined surfaces of the recess portion 4a and the inner peripheral surface of the sleeve 6b.

Please replace paragraph [0068] with the following amended paragraph:

[0068] In this case, as shown in Fig. 5, the first inner peripheral surface of the sleeve structuring the first capillary seal portion in accordance with the present invention forms a first angle θ_1 with respect to the rotation axis, and the angle θ_1 employs an angle value having relation $0 \leq \theta_1 \leq 90^\circ$ $0 < \theta_1 \leq 90^\circ$. Further, the second inner peripheral surface of the sleeve structuring the second capillary seal portion in accordance with the present invention forms a second angle θ_2 with respect to the rotation axis, and the angle θ_2 employs an angle value having relation $0 \leq \theta_2 \leq 90^\circ$ $0 \leq \theta_2 < 90^\circ$.

Please replace paragraph [0073] with the following amended paragraph:

[0073] For example, the present invention can be applied also to the structure disclosed in U.S. Patent Application No. 2003-30222. In other words, shown in Fig. 6, the spindle motor is provided with a pair of hydrodynamic bearing portions in an axial

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direction, each of the hydrodynamic bearing portions being constituted by an inclined surface of a conical member 200 fixed to an outer peripheral surface of the shaft 202, an inner peripheral surface of the sleeve 204 opposing to the inclined surface of the conical member 200 in a radial direction, a micro gap formed between the inclined surface of the conical member 200 and the inner peripheral surface of the sleeve 204 or the outer peripheral inclined surface of the conical member 200. The rotor is supported by forming a dynamic pressure generating grooves 208 in the inner peripheral surface of the sleeve 204. Further, a capillary seal portion 210 is formed between an inner peripheral surface of a cap member 212 fixed to an upper side in the axial direction of the sleeve 204, and an outer peripheral surface of the conical member 200 continuously provided in the hydrodynamic bearing portion. The same operational effects as those of the embodiment mentioned above can be obtained by using the capillary seal portions 28 and 30 in accordance with the present invention for the spindle motor.